

PAGE: 1

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/07/938,154**DATE: 03/08/94  
TIME: 12:25:06**INPUT SET: S7462.raw**1                   SEQUENCE LISTING  
2  
3       (1)      General Information:  
4  
5        (i) APPLICANT: Harpold, Michael M.  
6                   Ellis, Stephen B.  
7                   Brust, Paul  
8                   Akong, Michael  
9                   Velicelebi, Gonul  
10  
11      (ii) TITLE OF INVENTION: HUMAN NEURONAL NICOTINIC ACETYLCHOLINE  
12                   RECEPTOR COMPOSITIONS AND METHODS  
13  
14      (iii) NUMBER OF SEQUENCES: 12  
15  
16      (iv) CORRESPONDENCE ADDRESS:  
17                   (A) ADDRESSEE: Pretty Schroeder Brueggemann & Clark  
18                   (B) STREET: 444 South Flower Street, Suite 2000  
19                   (C) CITY: Los Angeles  
20                   (D) STATE: CA  
21                   (E) COUNTRY: USA  
22                   (F) ZIP: 90071  
23  
24      (v) COMPUTER READABLE FORM:  
25                   (A) MEDIUM TYPE: Floppy disk  
26                   (B) COMPUTER: IBM PC compatible  
27                   (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
28                   (D) SOFTWARE: PatentIn Release #1.0, Version #1.25  
29  
30      (vi) CURRENT APPLICATION DATA:  
31                   (A) APPLICATION NUMBER: US 07/938,154  
32                   (B) FILING DATE: 30-NOV-1992  
33                   (C) CLASSIFICATION:  
34  
35      (vii) PRIOR APPLICATION DATA:  
36                   (A) APPLICATION NUMBER: WO PCT/US91/02311  
37                   (B) FILING DATE: 03-APR-1991  
38  
39      (viii) PRIOR APPLICATION DATA:  
40                   (A) APPLICATION NUMBER: US 07/504,455  
41                   (B) FILING DATE: 03-APR-1990  
42  
43      (ix) ATTORNEY/AGENT INFORMATION:  
44                   (A) NAME: Reiter, Stephen E.  
45                   (B) REGISTRATION NUMBER: 31,192  
46                   (C) REFERENCE/DOCKET NUMBER: P41 9380  
47  
48      (x) TELECOMMUNICATION INFORMATION:  
49                   (A) TELEPHONE: 619-546-4737  
50                   (B) TELEFAX: 619-546-9392  
51**ENTERED**

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/07/938,154**

DATE: 03/08/94  
TIME: 12:25:13

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52 (2) INFORMATION FOR SEQ ID NO:1:  
53  
54 (i) SEQUENCE CHARACTERISTICS:  
55 (A) LENGTH: 195 base pairs  
56 (B) TYPE: nucleic acid  
57 (C) STRANDEDNESS: both  
58 (D) TOPOLOGY: both  
59  
60 (ii) MOLECULE TYPE: cDNA  
61  
62  
63  
64  
65  
66  
67 (ix) FEATURE:  
68 (A) NAME/KEY: misc\_feature  
69 (B) LOCATION: 1..195  
70 (D) OTHER INFORMATION: /note= "Human neuronal NACHR  
71 alpha-2 cDNA shown as top sequence of Fig 7A."  
72  
73  
74 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:  
75  
76 GCTAACACAGG AGTGGAGCGA CTACAAACTG CGCTGGAACC CCGCTGATTT TGGCAACATC 60  
77  
78 ACATCTCTCA GGGTCCCTTC TGAGATGATC TGGATCCCCG ACATTGTTCT CTACAACAAA 120  
79  
80 AATGGGGAGT TTGCAGTGAC CCACATGACC AAGGCCACC TCTTCTCCAC GGGCACTGTG 180  
81  
82 CACTGGGTGC CCCCC 195  
83  
84 (2) INFORMATION FOR SEQ ID NO:2:  
85  
86 (i) SEQUENCE CHARACTERISTICS:  
87 (A) LENGTH: 209 base pairs  
88 (B) TYPE: nucleic acid  
89 (C) STRANDEDNESS: both  
90 (D) TOPOLOGY: both  
91  
92 (ii) MOLECULE TYPE: cDNA  
93  
94  
95 (ix) FEATURE:  
96 (A) NAME/KEY: misc\_feature  
97 (B) LOCATION: 1..209  
98 (D) OTHER INFORMATION: /note= "Rat neuronal NACHR alpha-2  
99 cDNA shown as the bottom nucleotide sequence in  
100 Figure 7A."  
101  
102

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/07/938,154**DATE: 03/08/94  
TIME: 12:25:20**INPUT SET: S7462.raw**

103       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:  
104  
105       CCAATGTCTG GCTAAAGCAG GAATGGAATG ACTACAAGCT GCGCTGGGAC CCGGCTGAGT       60  
106  
107       TTGGCAATGT CACCTCCCTG CGCGTCCCTT CAGAGATGAT CTGGATCCCA GACATTGTCC       120  
108  
109       TCTACAACAA TGCAGATGGG GAGTTGCGG TGACCCACAT GACCAAGGCT CACCTCTTCT       180  
110  
111       TCACGGGCAC TGTGCACTGG GTGCCCGCA    209  
112  
113       (2) INFORMATION FOR SEQ ID NO:3:  
114  
115       (i) SEQUENCE CHARACTERISTICS:  
116           (A) LENGTH: 202 base pairs  
117           (B) TYPE: nucleic acid  
118           (C) STRANDEDNESS: both  
119           (D) TOPOLOGY: both  
120  
121       (ii) MOLECULE TYPE: cDNA  
122  
123  
124       (ix) FEATURE:  
125           (A) NAME/KEY: misc\_feature  
126           (B) LOCATION: 1..202  
127           (D) OTHER INFORMATION: /note= "Human neuronal NACHR  
128    alpha-2 cDNA shown as top sequence in Fig 7B."  
129  
130  
131  
132  
133  
134       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:  
135  
136       CCCCTTCGAC CAGCAGAACT GCAAGATGAA GTTTGGCTCC TGGACTTATG ACAAGGCCAA       60  
137  
138       GATCGACCTG GAGCAGATGG AGCAGACTGT GGACCTGAAG GACTACTGGG AGAGCGCGA       120  
139  
140       GTGGGCCATC GTCAATGCCA CGGGCACCTA CAACAGCAAG AAGTACGACT GCTGCGCCGA       180  
141  
142       GATCTACCCC GACGTCACCT AG    202  
143  
144       (2) INFORMATION FOR SEQ ID NO:4:  
145  
146       (i) SEQUENCE CHARACTERISTICS:  
147           (A) LENGTH: 250 base pairs  
148           (B) TYPE: nucleic acid  
149           (C) STRANDEDNESS: both  
150           (D) TOPOLOGY: both  
151  
152       (ii) MOLECULE TYPE: cDNA  
153

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/07/938,154**DATE: 03/08/94  
TIME: 12:25:26**INPUT SET: S7462.raw**

154       (ix) FEATURE:  
155           (A) NAME/KEY: misc\_feature  
156           (B) LOCATION: 1..250  
157           (D) OTHER INFORMATION: /note= "Rat neuronal NACHR alpha-2  
158                           cDNA shown as bottom sequence in Fig 7B."  
159  
160  
161       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:  
162  
163 CCCCTTCGAC CAGCAGAACT GCAAGATGAA GTTGGCTCC TGGACATATG ACAAGGCCAA       60  
164  
165 GATCGATCTG GAGCAGATGG AGAGGACAGT GGACCTGAAG GACTACTGGG AGAGTGGCGA       120  
166  
167 GTGGGCCATT ATCAATGCCA CCGAACCTA TAACAGTAAG AAGTACGACT GCTGCGCGGA       180  
168  
169 GATCTACCCC GATGTCACCT ACTACTTTGT GATCCGGCGG CTGCCGCTGT TCTATACCAT       240  
170  
171 CAACCTCATC       250  
172  
173 (2) INFORMATION FOR SEQ ID NO:5:  
174  
175       (i) SEQUENCE CHARACTERISTICS:  
176           (A) LENGTH: 278 base pairs  
177           (B) TYPE: nucleic acid  
178           (C) STRANDEDNESS: both  
179           (D) TOPOLOGY: both  
180  
181       (ii) MOLECULE TYPE: cDNA  
182  
183       (ix) FEATURE:  
184           (A) NAME/KEY: misc\_feature  
185           (B) LOCATION: 1..278  
186           (D) OTHER INFORMATION: /note= "Human neuronal NACHR  
187                           alpha-3 cDNA shown as top sequence in Fig 8A."  
188  
189  
190       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:  
191  
192 CTGGCAGCAG AGGCTGAGCA CCGTCTATT GAGCGGCTGT TTGAAGATTA CAATGAGATC       60  
193  
194 ATCCGGCCTG TAGCCAACGT GTCTGACCCA GTCATCATCC ATTGAGGT GTCCATGTCT       120  
195  
196 CAGCTGGTGA AGGTGGATGA AGTAAACCA ATCATGGAGA CCAACCTGTG GCTCAAGCAA       180  
197  
198 ATCTGGAATG ACTACAAGCT GAAGTGGAAC CCCTCTGACT ATGGTGGGGC AGAGTTCATG       240  
199  
200 CGTGTCCCTG CACAGAAGAT CTGGAAGCCA GACATTGT       278  
201 (2) INFORMATION FOR SEQ ID NO:6:  
202  
203       (i) SEQUENCE CHARACTERISTICS:  
204           (A) LENGTH: 300 base pairs

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205                   (B) TYPE: nucleic acid  
206                   (C) STRANDEDNESS: both  
207                   (D) TOPOLOGY: both  
208  
209                 (ii) MOLECULE TYPE: cDNA  
210  
211  
212                 (ix) FEATURE:  
213                   (A) NAME/KEY: misc\_feature  
214                   (B) LOCATION: 1..300  
215                   (D) OTHER INFORMATION: /note= "Rat neuronal NACChR alpha-3  
216                   cDNA shown as bottom sequence of Fig 8A."  
217  
218  
219                 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:  
220  
221 GATGCTGCTG CCAGCGGCCA GTGCCTCAGA AGCTGAGCAC CGCCTGTTCC AGTACCTGTT       60  
222 -CGAAGATTAC AACGAGATCA TCCGGCCAGT GGCTAATGTG TCCCATCCAG TCATCATCCA  
223                   120  
224  
225 GTTTGAGGTG TCCATGTCTC AGCTGGTGAA GGTGGATGAA GTAAACCAGA TCATGGAAAC  
226                   180  
227 CAACCTGTGG CTGAAGCAAA TCTGGAATGA CTACAAGCTG AAATGGAAAC CCTCTGACTA  
228                   240  
229 CCAAGGGGTG GAGTCATGC GTGTTCTGC AGAGAAGATC TGGAAACCAG ACATCGTACT  
230                   300  
231  
232                 (2) INFORMATION FOR SEQ ID NO:7:  
233  
234                 (i) SEQUENCE CHARACTERISTICS:  
235                   (A) LENGTH: 305 base pairs  
236                   (B) TYPE: nucleic acid  
237                   (C) STRANDEDNESS: both  
238                   (D) TOPOLOGY: both  
239  
240                 (ii) MOLECULE TYPE: cDNA  
241  
242  
243                 (ix) FEATURE:  
244                   (A) NAME/KEY: misc\_feature  
245                   (B) LOCATION: 1..305  
246                   (D) OTHER INFORMATION: /note= "Human neuronal NACChR  
247                   alpha-3 cDNA shown as top sequence in Fig 8B."  
248  
249  
250                 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:  
251  
252 TTCCAGGTGG ACGACAAGAC CAAAGCCTTA CTCAAGTACA CTGGGGACGT GACTTGGATA       60  
253  
254 CCTCCGGCCA TCTTTAAGAG CTCCTGTAAA ATCGACGTGA CCTACTTCCC GTTTGATTAC       120  
255

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256 CAAAAGTGT CCATGAAGTT CGGTTCCCTGG TCCTACGATA AGGCAGAAAT CGATCTGGTC 180  
257 CTGATCGGCT CTTCCATGAA CCTCAAGGAC TATTGGGAGA GCGGCGAGTG GGCCATCATC 240  
258 259 AAAGCCCCAG GCTACAAACA CGACATCAAG TACAAGTGCT GCGAGGAGAT CTACCCCGAC 300  
260 261 ATCAC 305  
262  
263  
264  
265  
266  
267

268 (2) INFORMATION FOR SEQ ID NO:8:

269 (i) SEQUENCE CHARACTERISTICS:  
270 (A) LENGTH: 350 base pairs  
271 (B) TYPE: nucleic acid  
272 (C) STRANDEDNESS: both  
273 (D) TOPOLOGY: both  
274

275 (ii) MOLECULE TYPE: cDNA  
276  
277

278 (ix) FEATURE:  
279 (A) NAME/KEY: misc\_feature  
280 (B) LOCATION: 1..350  
281 (D) OTHER INFORMATION: /note= "Rat neuronal NACHR alpha-3  
282 cDNA shown as bottom sequence in Fig 8B."  
283  
284

285 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

286 GTACAACAAC GCTGATGGGG ATTTCAGGT GGATGACAAG ACCAAAGCTC TACTCAAGTA 60  
287 288 CACAGGAGAA GTGACTTGGA TCCCGCCGGC CATCTTAAG AGCTCATGCA AAATCGACGT 120  
289 290 GACCTACTTC CCATTCGACT ACCAAAACTG CACCATGAAG TTCGGCTCCT GGTCTACGA 180  
291 292 CAAGGCAAAG ATCGACCTGG TCCTCATCGG CTCCTCCATG AACCTCAAGG ACTACTGGGA 240  
293 294 GAGTGGCGAG TGGGCTATCA TTAAAGCCCC GGGCTACAAA CATGAAATCA AGTACAAC TG  
295 296 297 298 CTGTGAGGAG ATCTACCAAG ACATCACGTA CTCGCTGTAC ATCCGTCGCC 350  
299

300 (2) INFORMATION FOR SEQ ID NO:9:

301 (i) SEQUENCE CHARACTERISTICS:  
302 (A) LENGTH: 1521 base pairs  
303 (B) TYPE: nucleic acid  
304 (C) STRANDEDNESS: both  
305 (D) TOPOLOGY: both  
306

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307  
308       (ii) MOLECULE TYPE: cDNA  
309  
310  
311       (ix) FEATURE:  
312           (A) NAME/KEY: misc\_feature  
313           (B) LOCATION: 1..1521  
314           (D) OTHER INFORMATION: /note= "Human neuronal NACHR beta-2  
315           cDNA shown as top sequence in Fig 9."  
316  
317  
318       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:  
319  
320 ATGCCCGCTG GCATGGCCCG GCGCTGCGGC CCCGTGGCGC TGCTCCTTGG CTTCGGCCTC       60  
321  
322 CTCCGGCTGT GCTCAGGGGT GTGGGGTACG GATACAGAGG AGCGGCTGGT GGAGCATCTC       120  
323  
324 CTGGATCCTT CCCGCTACAA CAAGCTTATC CGCCCAGCCA CCAATGGCTC TGAGCTGGTG       180  
325  
326 ACAGTACAGC TTATGGTGTC ACTGGCCCAG CTCATCAGTG TGCATGAGCG GGAGCAGATC       240  
327  
328 ATGACCACCA ATGTCTGGCT GACCCAGGAG TGGGAAGATT ATCGCCTCAC CTGGAAGCCT       300  
329  
330 GAAGAGTTTG ACAACATGAA GAAAGTCGG CTCCCTTCCA AACACATCTG GCTCCCAGAT       360  
331  
332 GTGGTCCTGT ACAACAATGC TGACGGCATG TACGAGGTGT CCTTCTATTG CAATGCCGTG       420  
333  
334 GTCTCCTATG ATGGCAGCAT CTTCTGGCTG CCGCCTGCCA TCTACAAGAG CGCATGCAAG       480  
335 ATTGAAGTAA AGCACTTCCC ATTTGACCAG CAGAACTGCA CCATGAAGTT CCGTTCGTGG       540  
336  
337 ACCTACGACC GCACAGAGAT CGACTTGGTG CTGAAGAGTG AGGTGGCCAG CCTGGACGAC       600  
338  
339 TTCACACCTA GTGGTGAGTG GGACATCGTG GCGCTGCCG GCCGCGGCAA CGAGAACCCC       660  
340  
341 GACGACTCTA CGTACGTGGA CATCACGTAT GACTTCATCA TTGCCGCAA GCCGCTCTTC       720  
342  
343 TACACCATCA ACCTCATCAT CCCCTGTGTG CTCATCACCT CGCTAGCCAT CCTTGTCTTC       780  
344  
345 TACCTGCCAT CCGACTGTGG CGAGAAGATG ACGTTGTGCA TCTCAGTGCT GCTGGCGCTC       840  
346  
347 ACGGTCTTCC TGCTGCTCAT CTCCAAGATC GTGCCTCCCA CCTCCCTCGA CGTGCCGCTC       900  
348  
349 GTCGGCAAGT ACCTCATGTT CACCATGGTG CTTGTCACCT TCTCCATCGT CACCAGCGTG       960  
350  
351 TGCCTGCTCA ACGTGCACCA CCGCTGCC ACCACGCACA CCATGGCGCC CTGGGTGAAG       1020  
352  
353 GTCGTCTTCC TGGAGAAGCT GCCCGCGCTG CTCTTCATGCA AGCAGGCCACG CCATCATTGC       1080  
354  
355 GCCCGTCAGC GCCTGCGCCT GCGGCGACGC CAGCGTGAGC GCGAGGGCGC TGGAGCCCTC       1140  
356  
357 TTCTTCCGCG AAGCCCCAGG GGCCGACTCC TGCACGTGCT TCGTCAACCG CGCGTCGGTG       1200

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PATENT APPLICATION US/07/938,154**DATE: 03/08/94  
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358 CAGGGGTTGG CGGGGGCCTT CGGGGCTGAG CCTGCACCAG TGGCGGGCCC CGGGCGCTCA 1260  
359 360 GGGGAGCCGT GTGGCTGTGG CCTCCGGGAG GCGGTGGACG GCGTGCCTT CATCGCAGAC 1320  
361 362 CACATGCGGA GCGAGGACGA TGACCAAGAGC GTGAGTGAGG ACTGGAAGTA CGTCGCCATG 1380  
363 364 GTGATCGACC GCCTCTTCCT CTGGATCTTT GTCTTTGTCT GTGTCTTGG CACCATCGC 1440  
365 366 ATGTTCCCTGC AGCCTCTCTT CCAGAACTAC ACCACCACCA CCTTCCTCCA CTCAGACCAC 1500  
367 368 369 TCAGCCCCCA GCTCCAAGTG A 1521  
370  
371 (2) INFORMATION FOR SEQ ID NO:10:  
372  
373 (i) SEQUENCE CHARACTERISTICS:  
374 (A) LENGTH: 1512 base pairs  
375 (B) TYPE: nucleic acid  
376 (C) STRANDEDNESS: both  
377 (D) TOPOLOGY: both  
378  
379 (ii) MOLECULE TYPE: cDNA  
380  
381  
382 (ix) FEATURE:  
383 (A) NAME/KEY: misc\_feature  
384 (B) LOCATION: 1..1512  
385 (D) OTHER INFORMATION: /note= "Rat neuronal NACHR beta-2  
386 cDNA shown as bottom nucleotide sequence in Figure  
387 9."  
388  
389  
390 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:  
391  
392 ATGCTGGCTT GCATGGCCGG GCACTCCAAC TCAATGGCGC TGTTCAGCTT CAGCCTTCTT 60  
393  
394 TGGCTGTGCT CAGGGGTTTT GGGAACTGAC ACAGAGGAGC GGCTAGTGGA GCATCTCTTA 120  
395  
396 GATCCCTCCC GCTATAACAA GCTGATTCTGT CCAGCTACTA ACGGCTCTGA GCTGGTGA 180  
397  
398 GTACAGCTCA TGGTATCATT GGCTCAGCTC ATTAGTGTGC ACGAGCGGGA GCAGATCATG 240  
399  
400 ACCACCAATG TCTGGCTGAC CCAGGAGTGG GAAGATTACC GCCTCACATG GAAGCCTGAG 300  
401  
402 GACTTCGACA ATATGAAGAA AGTCCGGCTC CCTTCCAAAC ACATCTGGCT CCCAGATGTG 360  
403  
404 GTTCTATACA ACAATGCTGA CGGCATGTAC GAAGTCTCCT TCTATTCAA TGCTGTGGTC 420  
405  
406 TCCTATGATG GCAGCATCTT TTGGCTACCA CCTGCCATCT ACAAGAGTGC ATGCAAGATT 480  
407  
408 GAGGTGAAGC ACTTCCCATT TGACCAGCAG AATTGCACCA TGAAGTTTCG CTCATGGACC 540

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PATENT APPLICATION US/07/938,154**DATE: 03/08/94  
TIME: 12:25:58**INPUT SET: S7462.raw**

409 TACGACCGTA CTGAGATTGA CCTGGTGCTC AAAAGTGTATG TGGCCAGTCT GGATGACTTC 600  
410 ACACCCAGCG GGGAGTGGGA CATCATCGCA CTGCCAGGCC GACGCAACGA GAACCCAGAC 660  
411  
412 GACTCCACCT ATGTGGACAT CACCTATGAC TTCATCATTC GTGCAGAACCC ACTCTTCTAC 720  
413  
414 ACTATCAACC TCATCATCCC CTGCGTACTC ATCACCTCGC TGGCCATCCT GGTCTTCTAC 780  
415  
416 CTGCCCTCAG ACTGTGGTGA AAAGATGACA CTTTGTATTT CTGTGCTGCT AGCACTCACG 840  
417  
418 GTGTTCCCTGC TGCTCATCTC CAAGATTGTG CCTCCCCACCT CCCTCGATGT ACCGCTGGTG 900  
419  
420 GGCAAGTACC TCATGTTTAC CATGGTGCTA GTCACCTCT CCATCGTCAC CAGCGTGTGT 960  
421  
422 GTGCTCAATG TGCACCACCG CTCGCCTACC ACGCACACCA TGGCCCCCTG GGTCAAGGTG 1020  
423  
424 GTCTTCCCTGG AGAAGCTGCC CACCCTGCTC TTCCCTGCAGC AGCCACGCCA CCGCTGTGCA 1080  
425  
426 CGTCAGCGTC TGCGCTTGAG GAGGCGCCAG CGAGAGCGTG AGGGCGAGGC GGTTTTCTTC 1140  
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428 CGTGAAGGTC CTGCGGCTGA CCCATGTACC TGCTTTGTCA ACCCTGCATC AGTGCAGGGC 1200  
429  
430 TTGGCTGGGG CTTTCCGAGC TGAGCCCCACT GCAGCCGCC CGGGGCGCTC TGTGGGGCCA 1260  
431  
432 TGCAGCTGTG GCCTCCGGGA AGCAGTGGAT GGCGTACGCT TCATTGCGGA CCACATGCGA 1320  
433  
434 AGTGAGGATG ATGACCAGAG TGTGAGGGAG GACTGGAAAT ACCTTGCCAT GGTGATCGAC 1380  
435  
436 CGCCTGTTCC TGTGGATCTT TGTCTTGTC TGTGTCTTG GGACCGTCGG CATGTTCCCTG 1440  
437  
438 CAGCCTCTCT TCCAGAACTA CACTGCCACT ACCTTCCTCC ACCCTGACCA CTCAGCTCCC 1500  
439  
440  
441 AGCTCCAAGT GA 1512  
442  
443  
444 (2) INFORMATION FOR SEQ ID NO:11:  
445  
446 (i) SEQUENCE CHARACTERISTICS:  
447 (A) LENGTH: 21 base pairs  
448 (B) TYPE: nucleic acid  
449 (C) STRANDEDNESS: single  
450 (D) TOPOLOGY: linear  
451  
452 (ii) MOLECULE TYPE: DNA (genomic)  
453  
454  
455  
456 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:  
457  
458 AGCTTTCGAT ATCAGAATTG G  
459

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/07/938,154**DATE: 03/08/94  
TIME: 12:26:04*INPUT SET: S7462.raw*

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461 (2) INFORMATION FOR SEQ ID NO:12:  
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463 (i) SEQUENCE CHARACTERISTICS:  
464 (A) LENGTH: 21 base pairs  
465 (B) TYPE: nucleic acid  
466 (C) STRANDEDNESS: single  
467 (D) TOPOLOGY: linear  
468  
469 (ii) MOLECULE TYPE: DNA (genomic)  
470  
471  
472 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:  
473  
474 AGCTCGAATT CTGATATCGA A  
475

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**SEQUENCE VERIFICATION REPORT  
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**SEQUENCE MISSING ITEM REPORT  
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**SEQUENCE CORRECTION REPORT**  
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